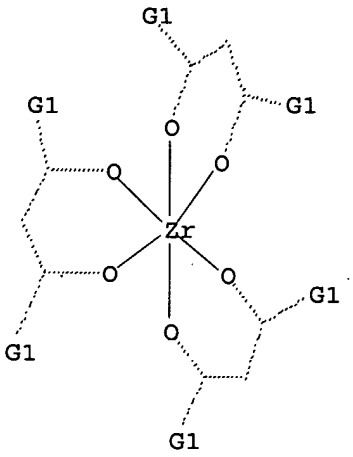
10/634,767

(FILE 'HOME' ENTERED AT 18:16:02 ON 14 MAR 2005)

FILE 'REGISTRY' ENTERED AT 18:16:12 ON 14 MAR 2005
L1 STRUCTURE UPLOADED

=> d l1
L1 HAS NO ANSWERS
L1 STR



G1 Me,Et,n-Pr,i-Pr,n-Bu,i-Bu,s-Bu,t-Bu,Ph,CF3

Structure attributes must be viewed using STN Express query preparation.

=> s l1
SAMPLE SEARCH INITIATED 18:16:48 FILE 'REGISTRY'
SAMPLE SCREEN SEARCH COMPLETED - 28 TO ITERATE

100.0% PROCESSED 28 ITERATIONS (3 INCOMPLETE) 10 ANSWERS
SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE **COMPLETE**
BATCH **COMPLETE**
PROJECTED ITERATIONS: 243 TO 877
PROJECTED ANSWERS: 11 TO 389

L2 10 SEA SSS SAM L1

=> s l1 full
FULL SEARCH INITIATED 18:16:55 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED - 562 TO ITERATE

100.0% PROCESSED 562 ITERATIONS (58 INCOMPLETE) 209 ANSWERS
SEARCH TIME: 00.00.02

L3 209 SEA SSS FUL L1

=> fil caplus
COST IN U.S. DOLLARS SINCE FILE ENTRY TOTAL SESSION
FULL ESTIMATED COST 161.76 161.97

FILE 'CAPLUS' ENTERED AT 18:17:10 ON 14 MAR 2005
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
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FILE COVERS 1907 - 14 Mar 2005 VOL 142 ISS 12
FILE LAST UPDATED: 13 Mar 2005 (20050313/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

```
=> s l3
L4         1457 L3

=> s l4 and py<2001
      20649596 PY<2001
L5         1124 L4 AND PY<2001

=> s l5 and "lead zirconate titanate thin film"
         559974 "LEAD"
          19090 "ZIRCONATE"
          77200 "TITANATE"
         525425 "THIN"
         873853 "FILM"
            136 "LEAD ZIRCONATE TITANATE THIN FILM"
                  ("LEAD"(W)"ZIRCONATE"(W)"TITANATE"(W)"THIN"(W)"FILM")
L6             1 L5 AND "LEAD ZIRCONATE TITANATE THIN FILM"

=> d bib abs

L6   ANSWER 1 OF 1  CAPLUS  COPYRIGHT 2005 ACS on STN
AN   1984:562265  CAPLUS
DN   101:162265
TI   Thin film dielectric
PA   Nippon Soda Co., Ltd., Japan
SO   PCT Int. Appl., 30 pp.
     CODEN: PIXXD2
DT   Patent
LA   Japanese
FAN.CNT 1
     PATENT NO.          KIND   DATE        APPLICATION NO.        DATE
     --------------      ----   --------    --------------------   --------
PI   WO 8403003           A1    19840802    WO 1984-JP27           19840131 <--
         W:  US
         RW: AT, BE, CH, DE, FR, GB, LU, NL, SE
     JP 59139617          A2    19840810    JP 1983-13869          19830131 <--
     JP 02005005          B4    19900131
     JP 59220913          A2    19841212    JP 1983-94840          19830531 <--
     JP 03018281          B4    19910312
     US 4636908           A     19870113    US 1984-662295         19841001 <--
PRAI JP 1983-13869        A     19830131
     JP 1983-94840        A     19830531
     WO 1984-JP27         W     19840131
AB   The method for depositing PbTiO3 (PT), Pb(Zr, Ti)O3 (PZT) and La-containing
     PZT (PLZT) dielec. thin films on conducting substrates is described.
     These dielec. materials may also contain an additive in the form of
     Pb(M'1/3M''2/3)O3, where M' can be a divalent transition metal and M'' can
     be Ta or Nb. The dielec. film is 0.1-100 μm thick and can be applied
     by using an organic solution containing starting materials in the form of diketones.
     Heating the solution to above the decompose temperature of the organic material but
     below the crystalline temperature of the dielec. material. For example, PbTiO3 was
     prepared by using Ti(OC4H9)4 and Pb(CH3CoO)2.

=> s l5 and thin film
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        525425 THIN
        873853 FILM
        136541 THIN FILM
                  (THIN(W)FILM)
L7          42 L5 AND THIN FILM

=> s l7 not l6
L8          41 L7 NOT L6

=> d 1-41 bib abs

L8   ANSWER 1 OF 41  CAPLUS  COPYRIGHT 2005 ACS on STN
AN   2000:835440  CAPLUS
DN   133:357541
TI   Method for producing a metal oxide and forming a minute pattern thereof
IN   Mizuta, Susuma; Tsuchiva, Tetsuo; Watanabe, Akio; Imai, Yoji; Yamaguchi,
     Iwao; Kumagai, Toshiya; Manabe, Takaaki; Niino, Hiroyuki; Yabe, Akira
PA   Secretary of Agency of Industrial Science and Technology, Japan
SO   Brit. UK Pat. Appl., 39 pp.
     CODEN: BAXXDU
DT   Patent
LA   English
FAN.CNT 1
     PATENT NO.           KIND   DATE        APPLICATION NO.         DATE
     ---------------      ----   --------    --------------------    --------
PI   GB 2347145            A1    20000830    GB 2000-4398            20000224 <--
     GB 2347145            B2    20010502
     JP 2001031417         A2    20010206    JP 1999-308644          19991029
     JP 3383838            B2    20030310
     US 6576302            B1    20030610    US 2000-513814          20000225
     CA 2303549            AA    20001117    CA 2000-2303549         20000330 <--
     CA 2303549            C     20040525
     AU 742356             B2    20020103    AU 2000-25189           20000331
PRAI JP 1999-47500         A     19990225
     JP 1999-136206        A     19990517
     JP 1999-308644        A     19991029
AB   A method for producing a metal oxide, comprises the following steps:
     dissolving a metal organic compound (e.g. a metal organic acid salt, a metal
     acetylacetonato complex, or a metal alkoxide having an organic group with six
     or more carbon atoms) in a solvent to provide a state of solution, applying
     the solution onto a substrate, drying the solution, and subjecting the resultant
     substrate to irradiation with a laser light of a 400 nm or shorter wavelength,
     to form a metal oxide on the substrate.  According to this method a metal
     oxide can be produced without applying a heat treatment at a high temperature to
     the degree adopted in the conventionally known application thermal
     decomposition method.  A minute pattern can be obtained by irradiation with a laser
     light according to a pattern shape or through a mask pattern.

L8   ANSWER 2 OF 41  CAPLUS  COPYRIGHT 2005 ACS on STN
AN   2000:642116  CAPLUS
DN   133:304249
TI   The microstructure, phase and ferroelectric properties of PZT thin films
     on oriented multilayer electrodes
AU   Li, Tingkai; Hsu, Sheng Teng; Gao, Yufei; Engelhard, Mark
CS   Sharp Laboratories of America, Inc, Camas, WA, 98607, USA
SO   Materials Research Society Symposium Proceedings (2000),
     596(Ferroelectric Thin Films VIII), 199-204
     CODEN: MRSPDH; ISSN: 0272-9172
PB   Materials Research Society
DT   Journal
LA   English
AB   Three kinds of oriented electrodes of Pt, Ir and Pt/Ir electrodes were
     prepared using electron beam evaporation techniques for deposition of PZT thin
     films.  An oxide MOCVD reactor with liquid delivery system was used for the
     growth of PZT thin films.  [Pb(thd)2], Zr(TMHD)4 and Ti(IPO)4 were
     dissolved in a mixed solvent of THF or Bu ether, isopropanol and
     tetraglyme to form a precursor source.  The deposition temperature and pressure
     were 500-650° and 5-10 torr, resp.  The exptl. results showed PZT
     thin film deposited on various electrodes had different
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phase formation, microstructure and ferroelec. property. The x-ray patterns showed the perovskite phase of PZT was formed on both Ir and Pt/Ir electrodes at 550°. The grain size of the PZT **thin film** increases after a further, higher temperature annealing. The as-deposited PZT **thin film** on Pt electrode exhibits pyrochlore phase at 550°. The phase is transformed to perovskite phase after 650° annealing. The exptl. results also indicated that the MOCVD PZT **thin film** on Pt/Ir exhibits better ferroelec. and elec. properties compared to those deposited on Pt and Ir electrodes. A 300 nm thick PZT **thin film** on Pt/Ir electrode has a square, well saturated, and sym. hysteresis loop with 2Pr value of 40 μC/cm2 and 2Ec of 73 kV/cm at an applied voltage of 5 V. The hysteresis loop of the PZT **thin film** is almost saturated at 2 V. The leakage current of the film is 6.16 + 10-7 A/cm2 at 100 KV/cm. The electrode effects on ferroelec. properties of PZT thin films also were studied.

RE.CNT 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L8 ANSWER 3 OF 41 CAPLUS COPYRIGHT 2005 ACS on STN
AN 2000:637978 CAPLUS
DN 133:324672
TI **Thin film** deposition of zirconia phosphate compound by aerosol CVD
AU Deschanvres, J. L.; Vaca, J. M.; Meffre, W.; Joubert, J. C.
CS Laboratoire des Materiaux et du Genie Physique, Domaine Universitaire, St Martin D'Heres, 38402, Fr.
SO Phosphorus Research Bulletin (**1999**), 10, 406-411
CODEN: PREBE7; ISSN: 0918-4783
PB Japanese Association of Inorganic Phosphorus Chemistry
DT Journal
LA English
AB Mixed P2O5-ZrO2 films were deposited at 480-600 °C using an aerosol CVD process with zirconium acetylacetonate and tri-Ph phosphate dissolved in a mixture of acetylacetone and benzylic alc. The P2O5 content varied from 0% up to 60%. The composition of the deposited films was systematically studied with regard to the deposition parameters. In particular, the influence of the hygrometric degree of the carrier gas and of the temperature used for the dissoln. of the organometallic precursors was noticed. The higher the dissoln. temperature, the higher was the phosphorus content. The changes in the X-ray diffraction patterns and the IR spectra, as a function of the composition of the films and the temperature of the post-annealing treatment, are discussed. After annealing at 700°C for 20 h the films with a P2O5 content between 11% and 45% are still amorphous and their refractive index decreased from 2.1 down to 1.65.

RE.CNT 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L8 ANSWER 4 OF 41 CAPLUS COPYRIGHT 2005 ACS on STN
AN 2000:605662 CAPLUS
DN 133:186514
TI Method and apparatus for preparing integrated circuit thin films by chemical vapor deposition
IN Pazde, Araujo Carlos A.; McMillan, Larry D.; Solayappan, Narayan; Bacon, Jeffrey W.
PA Symetrix Corporation, USA
SO U.S., 24 pp., Cont.-in-part of U.S. Ser. No. 653,079, abandoned.
CODEN: USXXAM
DT Patent
LA English
FAN.CNT 68

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 6110531	A	20000829	US 1997-892485	19970714 <--
	US 5138520	A	19920811	US 1991-690940	19910617 <--
	JP 11131247	A2	19990518	JP 1998-236014	19920221 <--
	JP 3238663	B2	20011217		
	US 5456945	A	19951010	US 1992-993380	19921218 <--
	US 5648114	A	19970715	US 1993-90767	19930712 <--

	US 5519234	A	19960521	US 1993-154927	19931118 <--
	US 5601869	A	19970211	US 1995-478399	19950607 <--
	US 5688565	A	19971118	US 1995-480477	19950607 <--
	US 6080592	A	20000627	US 1995-477331	19950607 <--
	US 5997642	A	19991207	US 1997-971799	19971117 <--
	US 6116184	A	20000912	US 1997-971890	19971117 <--
	WO 9902756	A1	19990121	WO 1998-US14531	19980714 <--
	W: CN, IL, JP, KR, US, US				
	RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	EP 998594	A1	20000510	EP 1998-934515	19980714 <--
	R: DE, FR, GB, IT, NL				
	JP 2001509641	T2	20010724	JP 2000-502245	19980714
	JP 3462852	B2	20031105		
	CN 1120249	B	20030903	CN 1998-807069	19980714
	US 6174564	B1	20010116	US 1999-258486	19990226
	US 6511718	B1	20030128	US 1999-446226	19991217
	US 6454964	B1	20020924	US 2000-718847	20001122
PRAI	US 1991-660428	B2	19910225		
	US 1991-690940	A2	19910617		
	US 1991-807439	B2	19911213		
	US 1992-965190	B3	19921023		
	US 1992-993380	A2	19921218		
	US 1993-90767	A2	19930712		
	US 1993-154927	A2	19931118		
	US 1995-480477	A2	19950607		
	US 1996-653079	B2	19960521		
	US 1988-290468	A2	19881227		
	WO 1989-US5882	W	19891227		
	JP 1992-511586	A3	19920221		
	US 1992-981133	A2	19921124		
	US 1993-134493	B1	19931019		
	US 1994-291366	A3	19940816		
	US 1997-892485	A2	19970714		
	US 1997-971799	A2	19971117		
	WO 1998-US14531	W	19980714		
	US 1999-258486	A3	19990226		

AB A mist is generated by a venturi from liquid precursors containing compds. used in CVD, transported in carrier gas through tubing at ambient temperature, passed into a heated zone where the mist droplets are gasified at a temperature of 100-200°, which is lower than the decomposition temperature of the precursor compds. The gasified liquid is injected through an inlet assembly into a deposition reactor in which there is a substrate heated to 400-600°, on which the gasified compds. decompose and form a **thin film** of layered superlattice compound

RE.CNT 48 THERE ARE 48 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L8 ANSWER 5 OF 41 CAPLUS COPYRIGHT 2005 ACS on STN
AN 2000:592948 CAPLUS
DN 133:171107
TI Scalable lead zirconium titanate (PZT) **thin film** material and deposition method, and ferroelectric memory device structures comprising such **thin film** material
IN Van Buskirk, Peter C.; Roeder, Jeffrey F.; Bilodeau, Steven M.; Russell, Michael W.; Johnston, Stephen T.; Vestyck, Daniel J.; Baum, Thomas H.
PA Advanced Technology Materials, Inc., USA
SO PCT Int. Appl., 64 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2000049646	A1	20000824	WO 2000-US4371	20000218 <--
	W: JP, KR				
	RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	US 6316797	B1	20011113	US 1999-251890	19990219

EP 1183719 A1 20020306 EP 2000-913553 20000218
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI
JP 2003517703 T2 20030527 JP 2000-600296 20000218
US 2002014644 A1 20020207 US 2001-928860 20010813
PRAI US 1999-251890 A 19990219
WO 2000-US4371 W 20000218
AB A novel lead Zr titanate (PZT) material having unique properties and applicability for PZT **thin film** capacitors and ferroelec. capacitor structures, e.g., FeRAMs, employing such **thin film** material. The PZT material is scalable, being dimensionally scalable, pulse length scalable and/or E-field scalable in character, and is useful for ferroelec. capacitors over a wide range of thicknesses, e.g., from .apprx.20 nm to .apprx.150 nm, and a range of lateral dimensions extending to ≥0.15 <mm. The scalable PZT material of the invention may be formed by liquid delivery MOCVD, without PZT film modification techniques such as acceptor doping or use of film modifiers (e.g., Nb, Ta, La, Sr, Ca and the like).
RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L8 ANSWER 6 OF 41 CAPLUS COPYRIGHT 2005 ACS on STN
AN 2000:196576 CAPLUS
DN 132:230749
TI Manufacture of **thin film** by plasma-assisted vapor deposition from sol
IN Ishida, Kataya; Hasegawa, Kazumasa
PA Seiko Epson Corp., Japan
SO Jpn. Kokai Tokkyo Koho, 5 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 2000086242	A2	20000328	JP 1998-259037	19980911 <--
PRAI JP 1998-259037		19980911		

AB The **thin film** is deposited on a substrate in a chamber by supplying source sol to a chamber under generating plasma. The **thin film**, preferably PZT, manufactured by the method preferably from sol of BuOCH2CH2OH, Pb(OAc)2, Zr(acac)2, and Ti(OCHMe2)4 is also claimed. The method gives PZT thin films with improved piezoelec. characteristics.

L8 ANSWER 7 OF 41 CAPLUS COPYRIGHT 2005 ACS on STN
AN 2000:65039 CAPLUS
DN 132:244623
TI Studies on PZT precursor solutions
AU Zhuang, W.; Li, T.; Barrowcliff, R.; Stecker, G.; Hsu, S. T.
CS Sharp Microelectronics Technology, Inc., Camas, WA, 98607, USA
SO Integrated Ferroelectrics (**1999**), 26(1-4), 979-986
CODEN: IFEREU; ISSN: 1058-4587
PB Gordon & Breach Science Publishers
DT Journal
LA English
AB A series of organic solvents has been used for the preparation of PZT precursor solns. The stability and the volatility of these PZT precursors have been tested. The results indicate the promising organic solvents are Bu ether, THF, 2-methoxyethyl ether, H(tmhd) and tetraglyme. PZT precursors include Zr(tmhd)4, Zr(OPri)4(HOPri), Zr(OPri)2(tmhd)2, Pb(tmhd)2, Ti(OPri)4 and Ti(OPri)2(tmhd)2, which can be dissolved in some special combinations of these organic solvents without losing volatility. However, iso-propanol should be introduced into the PZT precursor solns. if Ti(OPri)4 is used as the titanium source. The prepns. of PZT **thin film** via MOCVD have been carried out by using new PZT precursor solns., and high quality PZT thin films have been obtained.
RE.CNT 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L8 ANSWER 8 OF 41 CAPLUS COPYRIGHT 2005 ACS on STN
AN 2000:32453 CAPLUS
DN 132:71223
TI Method for forming patterned metal oxide **thin film** and its composition
IN Hiraoka, Toshiro; Matsumoto, Kazunori; Hayase, Shuji
PA Toshiba Corp., Japan
SO Jpn. Kokai Tokkyo Koho, 10 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 2000009955	A2	20000114	JP 1998-175960	19980623 <--
PRAI JP 1998-175960		19980623		

AB The invention relates to a material and a process for forming a patterned **thin film** made of metal oxide, suited for use in making a low-loss optical waveguide, a photonic band structure, etc., thus the process comprises the steps of: forming a photoresist layer containing a sublimable organometallic complex and a silicon-containing polymer; exposing the specific area of the photoresist to form the latent image of a patterned **thin film**; and heating the exposed photoresist layer, resulting in the removal of the organometallic complex from the unexposed area by sublimation.

L8 ANSWER 9 OF 41 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1999:640176 CAPLUS
DN 131:272848
TI Transparent protective film for color filter in liquid crystal display
IN Nakata, Kunihiko; Nomura, Akiko; Yoshioka, Masahiro
PA Toray Industries, Inc., Japan
SO Jpn. Kokai Tokkyo Koho, 12 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 11271526	A2	19991008	JP 1999-10297	19990119 <--
PRAI JP 1998-10686	A	19980122		

AB Title film with refractive index 1.55-1.8 is prepared from a thermosetting resin containing metal alcoholate or oxide ultrafine particles, which is used as a protective film for a color filter with reflectivity ≤10% for TFT (**thin film** transistor)-driven liquid crystal displays. Thus a color filter comprising a transparent protective film (refractive index 1.67 at 400 nm wavelength) prepared from epoxy phenolic resin (Epikote 827), γ-glycidoxypropylmethyldimethoxysilane, and Sb2O5, a polyimide-based black matrix substrate coated with three polyimide-based red, green, and blue colored layers, and a transparent ITO conductive film, was prepared for making liquid crystal display, showing the difference of refractive index between the protective film and the colored layers 0.09, that between the protective film and the conductive film 0.11, and no observerable interference fringes for the display.

L8 ANSWER 10 OF 41 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1999:549218 CAPLUS
DN 131:178517
TI A-site and/or B-site modified PbZrTiO3 films, their preparation, and devices using them
IN Roeder, Jeffrey R.; Chen, Ing-Shin; Bilodeau, Steven; Baum, Thomas H.
PA Advanced Technology Materials, Inc., USA
SO PCT Int. Appl., 63 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE

PI WO 9942282 A1 19990826 WO 1999-US1025 19990119 <--
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG
US 6312816 B1 20011106 US 1998-26946 19980220
AU 9922340 A1 19990906 AU 1999-22340 19990119 <--
EP 1056594 A1 20001206 EP 1999-902332 19990119 <--
R: DE, FR, GB, IT
JP 2002503768 T2 20020205 JP 2000-532267 19990119
US 2002117647 A1 20020829 US 2001-939906 20010827
US 6692569 B2 20040217
PRAI US 1998-26946 A 19980220
WO 1999-US1025 W 19990119
AB In a modified PbZrTiO3 perovskite film, the PbZrTiO3 material is modified by Sr, Ca, Ba, and/or Mg on the A-sites and/or Nb and/or Ta on the B-sites. The perovskite film may be formed by liquid-delivery MOCVD from metalorg. precursors of the metal components to form PZT, (Pb,Sr)(Zr,Ti)O3, and other piezoelec. and ferroelec. **thin film** materials. The films have utility in nonvolatile ferroelec. memory devices (NV-FeRAMs) and in microelectromech. systems (MEMS) as sensor and/or actuator elements, e.g., high-speed digital system actuators requiring low input power levels.
RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L8 ANSWER 11 OF 41 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1999:250235 CAPLUS
DN 130:275285
TI Manufacture of ceramic **thin film** with high crystal orientation by post annealing using IR lamp
IN Tamura, Hiroaki; Hasegawa, Kazumasa
PA Seiko Epson Corp., Japan
SO Jpn. Kokai Tokkyo Koho, 6 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 11106279	A2	19990420	JP 1997-266226	19970930 <--

PRAI JP 1997-266226 19970930
AB In the process, an amorphous precursor film on a substrate is annealed with IR lamp only from the substrate side. The process is effective to prepare a piezoelec., ferroelec., or pyroelec. ceramic film.

L8 ANSWER 12 OF 41 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1999:237126 CAPLUS
DN 130:318761
TI Fabrication of zirconia thin films by plasma enhanced metal-organic chemical vapor deposition
AU Kim, Ki-Dong; Cho, Young-Ah; Shin, Dong-Guen; Jeon, Jin-Seok; Choi, Dongsoo; Pak, Jong-Jin
CS Korea Gas Corporation, R&D Center, Kyunggi-Do, 425-150, S. Korea
SO Han'guk Chaelyo Hakhoechi (**1999**), 9(2), 155-162
CODEN: HCHAEU; ISSN: 1225-0562
PB Materials Research Society of Korea
DT Journal
LA Korean
AB Zirconia thin films of uniform structure were fabricated by plasma-enhanced metalorg. CVD. Deposition conditions such as substrate temperature have much influence on the formation of zirconia films, therefore the mechanism of decomposition of Zr[TMHD]4 precursor and film growth were examined by XRD, FTIR etc. as well as the determination of the optimal deposition condition. From temperature dependence on zirconia, below the deposition temperature

of 523K, the amorphous zirconia was formed while the crystalline of zirconia with preferred orientation of cubic (200) was obtained above the temperature Deposits at low temps. were studied by FTIR and the absorption band of films revealed that the zirconia **thin film** was in amorphous structure and has the same organic band as that of Zr precursor. In case of high temperature, Zr precursor was completely decomposed and crystalline zirconia was obtained. At 623K the higher RF power yielded the increased crystallinity of zirconia implying an increase in decomposition rate of precursor. However, it seems that RF power has nothing with the zirconia deposition process at 773K. The proper bubbler temperature of Zr[TMHD]4 precursor is needed along with high flow rate of carrier gas. Through AFM anal. the growth mechanism of the zirconia **thin film** showed island model.

L8 ANSWER 13 OF 41 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1999:224640 CAPLUS
DN 130:274394
TI MOCVD of PLZT-type **thin film**.
IN Okada, Masaru; Tominaga, Koji; Tomita, Katsuhiko; Matsumoto, Koichi
PA Horiba, Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 6 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 11092937	A2	19990406	JP 1997-272047	19970917 <--
PRAI JP 1997-272047		19970917		

AB The title method involves utilizing Pb, La, Zr, and Ti source materials which do not initiate a nucleation reaction in a gas phase and give a good step coverage. Specifically, the source materials may comprise Pb(C2H5)4, La(C11H19O2)3, Zr(C11H19O2)4, and Ti(C11H19O2)2(OCH3)2.

L8 ANSWER 14 OF 41 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1999:87133 CAPLUS
DN 130:226402
TI Film metal oxides, titanates and aluminates from metal oxychelates
AU Tsyganova, E. I.; Drobotenko, V. V.; Dyagileva, L. M.; Aleksandrov, Yu. A.
CS NII Khim., Nizhegorod. Gos. Univ. im. Lobachevskogo, Nizhniy Novgorod, Russia
SO Zhurnal Prikladnoi Khimii (Sankt-Peterburg) (**1998**), 71(6), 893-896
CODEN: ZPKHAB; ISSN: 0044-4618
PB Nauka
DT Journal
LA Russian
AB Thin films (0.1-0.3 μm) consisting of ZrO2(Y2O3), BaTiO3, MgAl2O4, SrTiO3, and MgO were prepared on aluminosilicate ceramic substrate and Ni strip by conversion of bimetallic alkoxychelates. Data related to the composition and morphol. of the films are given. A process for coating various substrates with the investigated titanate and aluminate films was developed for subsequent superconductor applications.

L8 ANSWER 15 OF 41 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1999:57425 CAPLUS
DN 130:226290
TI Liquid Delivery MOCVD of Niobium-Doped Pb(Zr,Ti)O3 Using a Novel Niobium Precursor
AU Chen, I.-S.; Roeder, J. F.; Glassman, T. E.; Baum, T. H.
CS Advanced Delivery and Chemical Systems Ltd., Danbury, CT, 06810, USA
SO Chemistry of Materials (**1999**), 11(2), 209-212
CODEN: CMATEX; ISSN: 0897-4756
PB American Chemical Society
DT Journal
LA English
AB A novel Nb source reagent, Nb(O-i-Pr)4(thd), was examined for use as the Nb dopant precursor for multicomponent oxide **thin-film** deposition by organometallic CVD. The compound is thermally stable and

chemical compatible with low vapor pressure PZT precursors (Pb(thd)2, Zr(thd)4, Ti(O-i-Pr)2(thd)2). The transport and vaporization conditions used for the PZT chemical were readily adopted for the new Nb-doped PZT mixture Liquid delivery organometallic CVD of Nb-doped PZT films using this Nb precursor was demonstrated, and single-phase perovskite Nb-doped PZT films with good ferroelec. properties were obtained.

RE.CNT 24 THERE ARE 24 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L8 ANSWER 16 OF 41 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1998:712609 CAPLUS
DN 129:324111
TI Manufacture of ceramic **thin film** by sol-gel technique without crack generation
IN Aoyama, Taku; Hisano, Tadaaki
PA Seiko Epson Corp., Japan
SO Jpn. Kokai Tokkyo Koho, 6 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 10291888	A2	19981104	JP 1997-97771	19970415 <--
PRAI JP 1997-97771		19970415		

AB In the process, crystallization of amorphous precursor film of organometallic compds. is performed so that the fired (i.e. crystallized) film satisfies ≤70% thickness of the precursor film. The precursor film may be laminated and the thickness condition may be satisfied for the ceramic layer other than the lowermost layer. The precursor films may be simultaneously fired for crystallization

L8 ANSWER 17 OF 41 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1998:712608 CAPLUS
DN 129:324110
TI Manufacture of ceramic **thin film** with controlled crystal orientation by post annealing method
IN Aoyama, Hiroshia; Hisano, Tadaaki; Miyashita, Satoshi
PA Seiko Epson Corp., Japan
SO Jpn. Kokai Tokkyo Koho, 6 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 10291887	A2	19981104	JP 1997-97767	19970415 <--
PRAI JP 1997-97767		19970415		

AB The process involves these steps; forming an amorphous precursor film on a substrate and firing so that the film temperature at the substrate side might be higher than the temperature at the film surface. The film at the substrate side may be crystallized earlier than the film surface is. The process, using a hot plate or a pair of IR lamps to make above condition, is also claimed.

L8 ANSWER 18 OF 41 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1998:693637 CAPLUS
DN 130:19575
TI Manufacture of titanium-containing ceramic **thin film**
IN Aoyama, Hiroshi; Kuno, Tadaaki; Miyashita, Satoshi
PA Seiko Epson Corp., Japan
SO Jpn. Kokai Tokkyo Koho, 8 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 10287983	A2	19981027	JP 1997-97768	19970415 <--
PRAI JP 1997-97768		19970415		

AB The manufacture method involves forming a Ti compound layer on a substrate, coating the layer with an amorphous ceramic precursor film, and crystallizing it. The manufacture method involves forming a Ti compound layer on a substrate, applying a Ti-free sol containing Pb and Zr on the substrate and drying, repeating application and drying of a sol containing Pb, Zr, and Ti more than one time, and crystallizing it. The manufacture method involves forming a Ti compound layer on a substrate, applying a Ti-free sol containing Pb and Zr and drying, crystallizing it, repeating application and drying of a sol containing Pb, Zr, and Ti more than one time, and crystallizing it. The substrate is pre-coated with the Ti-based layer, so that the film with excellent crystal orientation can be manufactured The film shows piezoelectricity.

L8 ANSWER 19 OF 41 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1998:536056 CAPLUS
DN 129:183117
TI Ceramic **thin film** and its manufacture
IN Aoyama, Hiroshi; kuno, Tadaaki; Miyashita, Hiroshi
PA Seiko Epson Corp., Japan
SO Jpn. Kokai Tokkyo Koho, 6 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 10219460	A2	19980818	JP 1997-21852	19970204 <--
	JP 3438509	B2	20030818		
PRAI	JP 1997-21852		19970204		

AB The ceramic film is formed on a substrate by crystallization of an amorphous precursor layer comprising a substance having lower crystallization temperature at the vicinity of the substrate than that at the other region. The film is manufactured by n-times repetition of a process comprising application of metalorg. sol on a substrate followed by drying. The crystallization temperature of a certain layer is lower than a region of the neighboring upper layer, and that of another certain layer is lower or equal to the neighboring upper layer. Method for manufacture of the film is also claimed. Thus, piezoelec. PZT film was prepared by the claimed method.

L8 ANSWER 20 OF 41 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1998:455530 CAPLUS
DN 129:88249
TI Evaluation of metalorganic precursors for fabrication of lead-based ferroelectric thin films
AU Tokita, Koji; Okada, Fumio
CS Materials Components Lab., Japan Energy Corp., Saitama, 335, Japan
SO Ferroelectrics (**1998**), 211(1-4), 127-140
CODEN: FEROA8; ISSN: 0015-0193
PB Gordon & Breach Science Publishers
DT Journal
LA English
AB Eight kinds of metalorg. precursors for MOCVD of Pb-based ferroelec. thin films were used to evaluate residual C concentration and growth rate of the oxide films. SIMS spectroscopy measurements indicated that Pb(DPM)2, Zr(O-tBu)4, and Ti(O-iPr)4 are the most suitable precursors for reducing the C concentration in PbO, ZrO2, and TiO2 films, resp. Using these precursors, a Pb(Zr0.52Ti0.48)O3 **thin film** with a residual C concentration as low as 0.02 mol% was grown at 763 K. Growth rates for various temperature were measured for 6 precursors. The rates obtained from alkoxide precursors, such as Et3PbOCH2CMe3 (TEPOL), Zr(O-tBu)4, and Ti(O-iPr)4, were saturated in a wide temperature range. An epitaxial PbTiO3 film was obtained on a (100)Pt/(100)MgO substrate at 763K using TEPOL and Ti(O-iPr)4. Precise control of the film composition is indispensable for low-temperature fabrication of Pb-based ferroelec. thin films.

L8 ANSWER 21 OF 41 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1998:314989 CAPLUS
DN 128:329146
TI Formation of oxide **thin film** by plasma vapor deposition

IN Miyashita, Satoshi; Hisano, Tadaaki; Komaki, Hisashi
PA Seiko Epson Corp., Japan; Nippon Electron Optics Lab
SO Jpn. Kokai Tokkyo Koho, 5 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 10130848	A2	19980519	JP 1996-284480	19961025 <--
PRAI JP 1996-284480		19961025		

AB The method involves (1) feeding a film-formation material comprising a solution or an organosol containing (A) an organic metal compound and an organic solvent or (B) plural organic metal compds. into plasma in a high-frequency induced plasma torch and (2) decomposing or evaporating the material to form the film on a substrate. In the method, plasma may be O. In the method, a crystalline oxide **thin film** may be formed by annealing at controlled temperature followed by film formation. The film shows homogeneous film thickness, no O defects, and good elec. properties such as elec. insulation, piezoelectricity, elec. conductivity, supercond., etc.

L8 ANSWER 22 OF 41 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1997:754262 CAPLUS
DN 128:17898
TI Manufacture of lead titanate zirconate **thin film** by plasma vapor deposition
IN Fujii, Eishi; Torii, Hideo; Takayama, Ryoichi
PA Matsushita Electric Industrial Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 7 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 09301798	A2	19971125	JP 1996-121289	19960516 <--
PRAI JP 1996-121289		19960516		

AB The **thin film** is manufactured by introducing source gases composed of a Pb-containing compound, a Ti-containing compound, and a Zr-containing compound, a carrier gas, and a reactant gas in an evacuation unit-containing reactor chamber through a supplying unit which is placed obliquely between a substrate holder and an electrode, supplying an elec. power to generate plasma between the substrate holder and the electrode, and forming an oxide **thin film** on a substrate kept over a desired temperature The method gives a large-size uniform film at high speed.

L8 ANSWER 23 OF 41 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1996:660719 CAPLUS
DN 125:290892
TI Oriented ferroelectric **thin film** device and its manufacture
IN Nashimoto, Keiichi
PA Fuji Xerox Co Ltd, Japan
SO Jpn. Kokai Tokkyo Koho, 9 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 08212830	A2	19960820	JP 1995-280168	19951027 <--
JP 3047316	B2	20000529		
US 5834803	A	19981110	US 1995-919576	19951106 <--
PRAI JP 1994-301698	A	19941111		
JP 1995-280168	A	19951027		

AB The device is manufactured by vapor-phase growth of an epitaxial or highly oriented 1st ferroelec. film on a single-crystal substrate, and application of an organometallic compound followed by heating to give an epitaxial or an oriented 2nd ferroelec. film. The device formed by this

method is also claimed. The substrate may be a semiconductor with an epitaxial MgO layer. The device shows low photocond. loss and less light scattering, useful for optical waveguides and optical modulators.

L8 ANSWER 24 OF 41 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1996:207943 CAPLUS
DN 124:268003
TI Characterization of PZT thin films prepared from a diol by sol-gel route using different precursors
AU Tu, Y. L.; Milne, S. J.
CS School of Materials, University of Leeds, Leeds, LS2 9JT, UK
SO British Ceramic Proceedings (**1996**), 55(21st Century Ceramics), 179-88
CODEN: BCPREL; ISSN: 0268-4373
PB Institute of Materials
DT Journal
LA English
AB The sol-gel route using 1,3-propanediol as solvent was used for preparing single-layer PZT films. Two Zr precursors, i.e., acetylacetonate-stabilized Zr propoxide and Zr acetylacetonate were used for preparing PZT sols for the preparation of thin films. Thermal decomposition behavior was similar between the sols made from these 2 precursors, but preferred orientation, microstructure, and elec. properties were dependent on precursor type. The employment of Zr acetylacetonate precursors generally led to stronger (111) preferred orientation, smaller grain size, lower εr and higher Pr. PZT films were fired using 2 heating schedules, and the effect of heating rate on the orientation, microstructure and elec. properties are presented. The elec. properties of films prepared from either precursor and fired using a 'direct' insertion method gave Pr 30-33 μC/cm2, εr 1100-1260, and Ec 46 kV/cm.

L8 ANSWER 25 OF 41 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1995:957507 CAPLUS
DN 124:38459
TI Shape of film grown on microsize trenches and holes by chemical vapor deposition: 3-dimensional Monte Carlo simulation
AU Akiyama, Yasunobu; Matsumura, Satoshi; Imaishi, Nobuyuki
CS Inst. of Advanced Material Study, Kyushu Univ., Fukuoka, 816, Japan
SO Japanese Journal of Applied Physics, Part 1: Regular Papers, Short Notes & Review Papers (**1995**), 34(11), 6171-7
CODEN: JAPNDE; ISSN: 0021-4922
PB Japanese Journal of Applied Physics
DT Journal
LA English
AB A semi-microscale 3-dimensional film growth simulation computer program based on a simple Monte Carlo method was developed. This program predicts the step coverage on a trench or hole of arbitrary shape and requires much smaller computer memory size and less calcn. time than does the direct simulation Monte Carlo (DSMC) method. The simulation program was evaluated by comparing its results with exptl. results for a ZrO2 film grown on a hole. The expts. and/or 3-dimensional simulations indicate that films grown on the side and bottom walls of a hole are thinner than those on a 2-dimensional trench, and complete occlusion of a hole is more difficult compared with a trench with opening width equal to the hole diameter The surface reaction rate constant is the most important factor in the occlusion process. When the reaction rate constant is small, the hole is occluded with a **thin film**. However, when the reaction rate constant is large, a void remains inside the hole along with a small unfilled pinhole through the thick film grown on top of the hole.

L8 ANSWER 26 OF 41 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1995:930339 CAPLUS
DN 124:43982
TI Synthesis and properties of zirconium, niobium, and tantalum oxide films
AU Kozik, V. V.; Skorik, N. A.; Borilo, L. P.; Dyukov, V. V.
CS Tomsk. Gos. Univ., Tomsk, Russia
SO Zhurnal Neorganicheskoi Khimii (**1995**), 40(10), 1596-8
CODEN: ZNOKAQ; ISSN: 0044-457X
PB MAIK Nauka

DT Journal
LA Russian
AB ZrO2, Ta2O5 and Nb2O5 thin films were prepared using Zr(acac)4, (Hant)2[NbF7] (ant = antipyrine) and H(ant)2[TaF6], resp., in freshly prepared solns. in Et2O or CHCl3. The optical properties of the films. and the thermal stability and IR spectra of H(ant)2[TaF6] were studied.

L8 ANSWER 27 OF 41 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1995:894312 CAPLUS
DN 124:16140
TI Mechanistic Studies of Film Growth of Zirconium Bis(phosphonate) Mono- and Multilayer Thin Films. These Things Grow Darned Flat!
AU Byrd, Houston; Snover, Jonathan L.; Thompson, Mark E.
CS Department of Chemistry, University of Southern California, Los Angeles, CA, 90089, USA
SO Langmuir (**1995**), 11(11), 4449-53
CODEN: LANGD5; ISSN: 0743-7463
PB American Chemical Society
DT Journal
LA English
AB AFM was used to study **thin film** growth of Zr bis(phosphonate) films on Si substrates under H2O. The authors observed a monolayer of Zr 1,16-hexadecanediylbis(phosphonate) [Zr(O3P-(CH2)16-PO3)] depositing as "islands" on a Zr-derivatized Si wafer. Images of the zirconated substrate obtained after short exposure to a H2O3P-(CH2)16-PO3H2 (C16BPA) solution correspond to an incomplete monolayer. The surface roughness for an incomplete monolayer is 7 times greater than the initial zirconated surface. Upon further exposure to the C16BPA solution, the surface roughness decreases and is ultimately very close to that of the original zirconated substrate. The Zr.C16BPA film is formed almost completely after a deposition time of .apprx. 200 min. AFM images of an incomplete bilayer film show regions corresponding to the zirconated substrate and monolayer and bilayer coverage.

L8 ANSWER 28 OF 41 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1995:417605 CAPLUS
DN 122:253776
TI Manufacture of zirconium-doped tin oxide transparent electrically conductive **thin film** by thermal decomposition
IN Misonoo, Masao; Sotoike, Masakyo
PA Nippon Sheet Glass Co Ltd, Japan
SO Jpn. Kokai Tokkyo Koho, 5 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 06349772	A2	19941222	JP 1993-134227	19930604 <--
PRAI JP 1993-134227		19930604		

AB The film is manufactured by adding 0.001-0.1 atomic ratio of a Zr-containing compound to a solution containing a tin compound and an organic solvent, followed by applying the liquid to a substrate to form a Sn oxide-base film by thermal decomposition The Zr-containing compound may be a β-diketonate. The solution may contain 0.1-10 atomic ratio of a F-containing compound Abrasion resistance of the film was improved.

L8 ANSWER 29 OF 41 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1995:320890 CAPLUS
DN 122:174800
TI Reaction analysis for ZrO2 and Y2O3 **thin film** growth by low-pressure metalorganic chemical vapor deposition using β-diketonate complexes
AU Akiyama, Yasunobu; Sato, Tsuneyuki; Imaishi, Nobuyuki
CS Institute of Advanced Material Study, Kyushu University, Fukuoka, 816, Japan
SO Journal of Crystal Growth (**1995**), 147(1/2), 130-46
CODEN: JCRGAE; ISSN: 0022-0248
PB Elsevier

DT Journal
LA English
AB A math. model was developed for low-pressure metalorg. CVD (LPMOCVD) of ZrO2 and Y2O3 film growth. Zr(DPM)4(Zr tetrakis-2,2,6,6-tetramethyl-3,5-heptanedionate (β-diketonate complex)) and Y(DPM)3 were used as source materials. The surface reaction rate constant (or the reactive sticking coefficient) was determined by comparing the exptl. observed step coverages on micro-scale trenches with those predicted by a simplified Monte Carlo simulation. A gas-phase reaction rate constant was taken as a disposable parameter to fit the growth rate distributions along the reactor tube by a diffusion reaction transport model. Arrhenius-type equations are proposed for both surface and gas phase reactions. For the surface reactions, the activation energies were 188 kJ/mol (T<909 K) and 38 kJ/mol (T>909 K) for ZrO2 and 133 kJ/mol (T<870 K) for Y2O3. For the gas phase reactions, they were 140 and 123 kJ/mol for ZrO2 and Y2O3, resp. The SEM micrographs and XRD patterns revealed that the crystallog. orientation and morphol. of the grown films depend on the growth temperature

L8 ANSWER 30 OF 41 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1995:269021 CAPLUS
DN 122:62417
TI Zirconia (ZrO2) **thin film**, titania (TiO2) **thin film**, and their manufacture by chemical vapor deposition
IN Okada, Fumio; Tokita, Koji
PA Japan Enajii Kk, Japan
SO Jpn. Kokai Tokkyo Koho, 8 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 06287756	A2	19941011	JP 1993-76679	19930402 <--
JP 2894469	B2	19990524		
PRAI JP 1993-76679		19930402		

OS MARPAT 122:62417
AB The ZrO2 **thin film** and TiO2 **thin film** contain ≥30 mol% free C. The films are manufactured by irradiating a β-diketone complex of Zr or Ti with laser light without laser radiation to a substrate and chemical vapor depositing at substrate temperature 510-600° in an oxidizing atmospheric The films are useful as ceramics for optical materials, coating materials, etc.

L8 ANSWER 31 OF 41 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1994:336533 CAPLUS
DN 120:336533
TI Metallorganic chemical vapor deposition (MOCVD) of titanium-based ferroelectric thin films
AU Hendricks, Warren C.; Desu, Seshu B.; Si, Jie; Peng, Chien H.
CS Dep. Mater. Sci. Eng., Virginia Polytech. Inst. and State Univ., Blacksburg, VA, 24061, USA
SO Materials Research Society Symposium Proceedings (**1993**), 310(Ferroelectric Thin Films III), 241-7
CODEN: MRSPDH; ISSN: 0272-9172
DT Journal
LA English
AB Using hot-walled metalorg. chemical vapor deposition (MOCVD), thin films of lead zirconate titanate (PZT), lead titanate (PbTiO3 or PT) and bismuth titanate (Bi4Ti3O12 or BiT) were successfully prepared For each material, titanium ethoxide (Ti(C2H5O)4) was used as the precursor for the titanium source, while lead bis-tetramethylheptadione (Pb(thd)2), zirconium tetrakis-tetramethylheptadione (Zr(thd)4) and tri-Ph bismuth (Bi(C6H5)3) were used as sources for lead, zirconium and bismuth, resp. Dense, specular and highly transparent films were obtained for all three materials. Deposition conditions are given for each of the materials as well as the properties of the resulting films as determined by XRD, SEM and UV-VIS-NIR spectrophotometry. Ferroelec. properties are also given for the PZT and BiT films; for PZT (%Zr = 41; %Ti = 9) annealed at 600 °C, the spontaneous polarization, PS, was 23 μC/cm2 and the

coercive field, EC, was 65 kV/cm; for BiT annealed at 550°C, the spontaneous polarization, PS, was 27 μC/cm2 and the coercive field, EC, was 240 kV/cm.

L8 ANSWER 32 OF 41 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1994:150150 CAPLUS
DN 120:150150
TI Ferroelectric thin films for memory applications: sol-gel processing and decomposition of organo-metallic compounds
AU Klee, Mareike; Larsen, Poul K.
CS Philips GmbH Forschungslab., Aachen, Germany
SO Ferroelectrics (**1992**), 133(1-4), 91-6
CODEN: FEROA8; ISSN: 0015-0193
DT Journal
LA English
AB Pb(ZrxTi1-x)O3 (PZT), Bi4Ti3O12 and BaTiO3 films as well as SrTiO3 films are considered for nonvolatile memory applications and high d. dynamic random access memories. These perovskite systems are frequently deposited by a sol-gel or MOD technique. Processing and the properties of the thin films are summarized.

L8 ANSWER 33 OF 41 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1994:91462 CAPLUS
DN 120:91462
TI Vapor phase preparation of barium compound **thin film** from organic barium compound
IN Sugawara, Shungo; Sato, Koji
PA Nippon Telegraph & Telephone, Japan
SO Jpn. Kokai Tokkyo Koho, 8 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 05208818	A2	19930820	JP 1992-14816	19920130 <--
PRAI JP 1992-14816		19920130		

OS MARPAT 120:91462
AB The film is prepared by heat decomposition of Ba complexes of diketone R1CSCH2COR2 (R1 = Me, CHMe2, CMe3; R2 = C1-8 fluoroalkyl). Ba-Zr or Ba-Y compound **thin film** may be formed by adding Zr compound or Y compound to a vapor deposition material. HF may be used to form a BaF2 **thin film**. Ba Ti oxide dielec. film or Ba Y Cu oxide superconductor **thin film** may be prepared in the method.

L8 ANSWER 34 OF 41 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1994:91451 CAPLUS
DN 120:91451
TI Oxide-system dielectric **thin film** formed by CVD method using vapor of organic solvent
IN Uchikawa, Fusaoki; Matsuno, Shigeru; Kinouchi, Shinichi; Watarai, Hisao; Honda, Toshihisa; Kuroiwa, Takeharu; Higaki, Takashi
PA Mitsubishi Denki K. K., Japan
SO Brit. UK Pat. Appl., 17 pp.
CODEN: BAXXDU
DT Patent
LA English
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI GB 2264119	A1	19930818	GB 1993-3160	19930217 <--
GB 2264119	B2	19950301		
JP 05299365	A2	19931112	JP 1992-289780	19921028 <--
JP 2790581	B2	19980827		
DE 4304679	A1	19930923	DE 1993-4304679	19930216 <--
DE 4304679	C2	19960321		
US 5372850	A	19941213	US 1993-18900	19930217 <--
PRAI JP 1992-29574	A	19920217		
JP 1992-289780	A	19921028		

AB A CVD method for manufacturing an oxide-system dielec. **thin film** using a raw material compound in which a metal atom is coupled with an organic group through O atoms causes a vapor of organic solvent having a b.p. <100° to contact the raw material compound in >1 of processes for vaporizing or transporting the raw material compound The raw material compound of oxide-system dielec. **thin film** can be vaporized stably and transported to the reactor at a lower temperature than before ensuring that the composition of the film can be controlled homogeneously.

L8 ANSWER 35 OF 41 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1993:660597 CAPLUS
DN 119:260597
TI Glass substrate provided with a conductive **thin film**
IN Grimal, Jean Michel; Bruneel, Dominique; Campet, Guy; Wen, Shie Jie
PA Saint-Gobain Vitrage International, Fr.
SO Fr. Demande, 15 pp.
CODEN: FRXXBL
DT Patent
LA French
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI FR 2683219	A1	19930507	FR 1991-13346	19911030 <--
FR 2683219	B1	19950127		
PRAI FR 1991-13346		19911030		

AB The transparent conductive layer is based on In and O and contains ≥1 of the dopants Ge, Ti, Zr, Si, and Sn. A method for obtaining the product is described.

L8 ANSWER 36 OF 41 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1993:460604 CAPLUS
DN 119:60604
TI LPMOCVD of YSZ **thin film** - experiments and model analyses
AU Akiyama, Yasunobu; Sato, Tsuneyuki; Imaishi, Nobuyuki
CS Inst. Adv. Mater. Study, Kyushu Univ., Kasuga, 816, Japan
SO Proceedings - Electrochemical Society (**1993**), 93-2(Proceedings of the Twelfth International Symposium on Chemical Vapor Deposition, 1993), 300-5
CODEN: PESODO; ISSN: 0161-6374
DT Journal
LA English
AB YSZ (Y2O3-stabilized ZrO2) **thin-film** growth by LPMOCVD (low-pressure metalorg. CVD) using β-diketonate complexes, Zr(DPM)4 (tetrakis(2,2,6,6-tetramethyl-3,5-heptadionate)zirconium) and Y(DPM)3, metal sources, was studied from morphol. and kinetic viewpoints. SEM anal. revealed that films prepared at 1023 K are characterized by a columnar structure, but 773-K films consisted of fine grains. The x-ray diffraction patterns indicate that films ranging in Y2O3 composition from 8 mol% or above have the crystallog. orientation of a (200) plane irresp. of their growth temperature The exptl. distributions of growth rate and composition can be well explained by a math. model which assumes the additivity of the individual growth rates of ZrO2 and Y2O3.

L8 ANSWER 37 OF 41 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1993:113787 CAPLUS
DN 118:113787
TI Manufacture of barium compound **thin film** by chemical vapor deposition
IN Sugawara, Shungo; Sato, Koji
PA Nippon Telegraph and Telephone Corp., Japan
SO Jpn. Kokai Tokkyo Koho, 8 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE

PI JP 04260640 A2 19920916 JP 1991-23407 19910218 <--
PRAI JP 1991-23407 19910218
AB The Ba compound **thin film** is manufactured by setting a substrate in a CVD reactor, introducing a reaction gas containing an organic Ba complex of diketone compound R1COCH2COR2 (R1 = C≤6 fluoroalkyl; R2 = C2-8 = fluoroalkyl) and other element-containing compds., and pyrolyzing. A fluoride glass or superconductor oxides were obtained with good thermal stability.

L8 ANSWER 38 OF 41 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1993:10583 CAPLUS
DN 118:10583
TI Gas-phase reaction rate during zirconia **thin-film** formation by low-pressure metalorganic CVD (LPMOCVD) - comparison of film growth rate distributions [obtained theoretically and experimentally]
AU Akiyama, Yasunobu; Nakano, Katsuyuki; Sato, Tsuneyuki; Imaishi, Nobuyuki
CS Inst. Adv. Mater. Study, Kyushu Univ., Kasuga, 816, Japan
SO Kagaku Kogaku Ronbunshu (**1992**), 18(6), 840-8
CODEN: KKRBAW; ISSN: 0386-216X
DT Journal
LA Japanese
AB ZrO2 thin films were prepared from β-diketonate complexes on the inner wall of a horizontal tubular hot-wall CVD reactor. The exptl. temperature, pressure, flow rate, and O concentration were in the ranges 823-973 K, 0.4-24 kPa, 0-1500 standard cm3/min, and 0-50 mol%, resp. The dependence of the growth rate, color, and crystal form of the deposited ZrO2 films on exptl. conditions was studied. Numerical calcns. of the governing equations, with the gas-phase reaction rate constant as an unknown parameter, were performed to determine the gas-phase reaction rate constant with which the theor. growth rate distributions can be fitted to the exptl. ones for all runs. The activation energy of the gas-phase reaction, using tetrakis(dipivaloylmethane)zirconium as a source compound, was 140 kJ/mol. This simulation also indicated that the pressure drop must be taken into account in a low-pressure CVD calcn.

L8 ANSWER 39 OF 41 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1992:97662 CAPLUS
DN 116:97662
TI Metal-vapor discharge lamp
IN Aoki, Masaki; Omura, Hideaki; Ogura, Toshiaki
PA Matsushita Electric Industrial Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 6 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 03238747	A2	19911024	JP 1990-36457	19900216 <--
CA 2036485	AA	19910817	CA 1991-2036485	19910215 <--

PRAI JP 1990-36457 A 19900216
AB In a quartz discharge lamp containing a metal halide, the inside of the quartz bulb has a **thin film** of HfO2, UO2, Y2O3, ThO2, ZrO2, and/or Al2O3. A method for manufacture of the lamp involves CVD of the **thin film** using a metal chelate and O, N2O, or O3. The **thin film** is highly dense and the service lifetime of the lamp is increased.

L8 ANSWER 40 OF 41 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1992:45351 CAPLUS
DN 116:45351
TI Formation of thin glass and ceramic coatings and microstructures on suitable substrates
IN Hoerhold, Hans Heinrich; Klee, Joachim; Feltz, Adalbert; Hoeland, Wolfram; Opfermann, Johannes
PA Friedrich-Schiller-Universitaet, Germany
SO Ger. (East), 5 pp.
CODEN: GEXXA8
DT Patent

LA German
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI DD 293377	A5	19910829	DD 1990-339299	19900522 <--
PRAI DD 1990-339299		19900522		

AB The process comprises thermally oxidizing coatings formed from solns. of sol, film-forming complexes of mono- to tetravalent metal salts and high-mol. weight epoxide-amine addition polymers, or the corresponding prepolymers, to give the corresponding glass or ceramic coatings. The thin coatings may be suitable for use as high-temperature superconductors, **thin-film** capacitors, piezo- or pyroelec. ceramics, magnetic ceramics, bioactive or biocompatible glass-ceramics, or optical and nonlinear optical glass. To a CHCl3/MeOH solution (4:1; 24 mL) of 6.044 g addition polymer formed from bisphenol-A-diglycidyl ether and N,N'-dibenzyl-3.6-dioxaoctanediamine-1,8 (number average mol. weight 19,200) was added 10 mL MeOH solution of Ti isopropylorthotitanate 0.856, Pb(OAc)2 1.341, and zirconyl acetyl-acetonate 1.469 g. The solution was stirred for 1 h, dropwise added to C6H14, the precipitated polymer-metal salt solution was isolated, dried at 80° and 0.1 mbar for 8 h, dissolved in DMF, and cast into a film that was fired under Ar at 500°, and sintered in air at 950° to give a Pb(Ti,Zr)O3 ceramic film.

L8 ANSWER 41 OF 41 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1972:87991 CAPLUS
DN 76:87991
TI Zirconium tetrakis[hexafluoroacetylacetonate) and hafnium tetrakis(hexafluoroacetylacetonate)
IN Chattoraj, Shib C.; Lynch, Charles T.; Mazdiyasni, Khodabakhsh
SO U.S., 3 pp.
CODEN: USXXAM
DT Patent
LA English
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI US 3634477	A	19720111	US 1969-823152	19690508 <--
PRAI US 1969-823152	A	19690508		

AB ZrL4 or HfL4 (HL = hexafluoroacetylacetone) was prepared by the reaction of ZrCl4 or HfCl4, resp., in CCl4 with HL under refluxing conditions and with the exclusion of O. ZrL4 and HfL4 are thermally decomposed to give the resp. metal dioxides as ultrahigh purity, fine particle, fiber, or **thin film** oxides.